

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(5) Summary of Invention

U.S. Patent No. 5,788,178 ("the '178 patent), issued August 4, 1998 to the Patentee/Applicant in the present reissue application, discloses and claims a small caliber laser-guided bullet having a self-contained guidance system. The guidance system includes on-board laser sensors and navigational circuits capable of detecting a laser target signature, determining the deviation of the bullet from an optimum trajectory along which the bullet would impact a hostile target, and generating an electrical signal to piezo-electric steering control surfaces to effect a change in the course of the bullet. The guided bullet utilizes a plurality of symmetrically arranged laser sensor elements that are positioned about a longitudinal axis of the bullet. The laser sensor elements function to transmit optical radiation from the laser target beam to photo detector elements housed within the bullet. The electrical signals from the photo detector elements are then amplified and processed by semiconductor logic circuits to produce the functions required by the steering control surfaces to translate the bullet to the optimum trajectory. Electrical power for the guidance system is provided by a miniature lithium-polymer battery that is interconnected with the navigational circuits to produce the functions of the system. The guided bullet is fired from a precision, smooth bore weapon using a conventional expanding gas cartridge and is effective at ranges up to 3,000 meters and beyond.

Patentee's prior patent counsel, who prosecuted the '178 patent, failed to fully appreciate the scope of Mr. Barrett's invention. In particular, prior counsel failed to adequately independently claim certain configurations of optical detectors and electrical signal processors on board the bullet, and methods of utilizing them to effect in-flight

course correction. These features were fully disclosed in Mr. Barrett's application, comprise part of the same invention disclosed and claimed in the '178 patent, do not constitute new matter, and were omitted from the claims of the '178 patent through error without any deceptive intention. Reissue is proper under 35 U.S.C. § 251. *See* MPEP § 1412.01, *et. seq.*

(6) Issues

Whether reissue claims 30-32 are drawn to subject matter surrendered during prosecution of the '178 patent, thus invoking the recapture rule?

Whether the requirement imposed by the Examiner that "Each and every point argued by Applicants on the record as defining over the prior art applied in the rejections of record in the patent application as well as the points set forth in the Examiner's Statement of Reasons for Allowance must be contained in any claims to be issued in this reissue application." is proper statement of patent law?

Whether the above quoted requirement imposed by the Examiner, if a proper statement of patent law, is properly imposed in the present reissue application?

(7) Grouping of Claims

Claims 30-32 should be grouped together. All of the claims stand or fall together.

(8) Argument

Title 35 of the U.S. Code provides the statutory authority for the reissuance of a patent:

Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, *or by reason of the patentee claiming more or*

less than he had a right to claim in the patent, the Commissioner shall ... reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent.

35 U.S.C. § 251 (2001) (emphasis added). In interpreting § 251, the Federal Circuit has held, “An attorney’s failure to appreciate the full scope of the invention qualifies as an error under section 251 and is correctable by reissue.” *In re Clement*, 131 F.3d 1464, 1468 (Fed. Cir. 1997). *See also Hester v. Stein*, 142 F.3d 1472, 1479 (Fed. Cir. 1998) (“One of the most commonly asserted ‘errors’ in support of a broadening reissue is the failure of the patentee’s attorney to appreciate the full scope of the invention during the prosecution of the original patent application.”); *Scripps Clinic v. Genentech, Inc.*, 927 F.2d 1565, 1575 (Fed. Cir. 1991) (“Failure of the attorney to claim the invention sufficiently broadly is ‘one of the most common sources of defects’.”). Furthermore, “When the statutory requirements are met, reissuance of the patent is not discretionary with the Commissioner [now Director]; it is mandatory (‘shall’).” *Scripps*, at 1575.

Claims 30-32 added in the reissue application and currently pending, are broadening claims; they enlarge the scope of the claims in the sense that they claim subject matter not covered by the claims of the original patent. However, contrary to the Examiner’s assertion, the subject matter of claims 30-32 was *not* “surrendered in the application for the patent on which the reissue is based.” Final Office Action of January 17, 2001, ¶ 3. Rather, claims 30-32 recite subject matter *fully disclosed but never claimed in the original patent application*. As such, the subject matter of claims 30-32 was not “surrendered” – either by amendment or through argument – in an effort to gain allowance of the original claims. The recapture doctrine thus does not apply to reissue claims 30-32 at all, as a proper analysis will clearly show.

The Federal Circuit outlined the proper analysis of broadened reissue claims in *In re Clement*, 131 F.3d 1464, 1468 (Fed. Cir. 1997). The first step of the analysis is to determine if the reissue claims are in fact broadening, and if so, how. “The first step in applying the recapture rule is to determine whether and in what ‘aspect’ the reissue claims are broader than the patent claims.” *Clement*, at 1468. Whether reissue claims are broader than the patent claims, *i.e.*, whether they enlarge the scope of the claims, is discussed extensively in the MPEP:

A broadened reissue claim is a claim which enlarges the scope of the claims of the patent, *i.e.*, a claim which is greater in scope than each and every claim of the patent. A claim of a reissue application enlarges the scope of the claims of the patent if it is broader in at least one respect, even though it may be narrower in other respects.

A claim in the reissue which includes subject matter not covered by the patent claims enlarges the scope of the patent claims. For example, if any amended or newly added claim in the reissue contains within its scope any conceivable apparatus or process which would not have infringed the patent, then that reissue claim would be broader than the patent claims.

A claim which reads on something which the original claims do not is a broadened claim. A claim would be considered a broadening claim if the patent owner would be able to sue any party for direct infringement who previously could not have been sued for direct infringement.

MPEP § 1412.03. Reissue claims 30-32 are clearly broadening, in that they include subject matter not covered by the claims of the original patent. However, the claims are *not* broadened by omitting one or more limitations from an original patent claim. Rather, the reissue claims are directed to subject matter not covered by any original claim. Hence, the answers to the two inquiries of the first step in the *Clement* analysis – whether and in what aspect the claims are broadened – are “yes,” and “by claiming subject matter not previously claimed.”

The second step is to determine what (if any) subject matter was surrendered during prosecution of the original patent claims.

The second step is to determine whether the broader aspects of the reissue claims relate to surrendered subject matter. To determine whether an applicant surrendered particular subject matter, we look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection.

Clement, at 1468. The second step thus requires a review of the prosecution history of the original patent.

U.S. Patent Application No. 08/888,425 was filed on June 5, 1996. The application was directed to a guided bullet fired from a smooth-bored rifle. A target is illuminated with a laser, and optical detectors on the bullet detect the reflected laser light energy. Signal processors on the bullet compare the signals from the optical detectors, and actuate deployable flaps in response, which alter the course of the bullet. In this manner, the bullet "steers itself" toward the laser-illuminated target.

The patent application was filed with 19 claims, two of which were independent claims. Independent claim 1 was drafted to a bullet guidance system comprising a laser beam detection means in the bullet, a logic circuit, steering control means, and power supply means. Independent claim 13 was drafted to a method of guiding an in-flight bullet, comprising firing the bullet, detecting reflected laser beam energy, converting the energy to electrical impulses, determining the deviation of the bullet from a desired trajectory, generating corrective signals, and actuating steering control means to guide the bullet. Various claims depending from claims 1 and 13 claimed other features of the invention.

On March 27, 1997, the U.S. Patent and Trademark Office (PTO) issued an Office Action objecting to the specification under 35 U.S.C. § 112, rejecting all claims under § 112, first paragraph, rejecting claims 4, 5, 10-12, and 19 under § 112, second

paragraph, rejecting claims 1-9, 13-17, and 19 under § 103(a) as being unpatentable over Lawhorn *et al.* in view of Albrektsson *et al.* and various other references. The Examiner noted that claims 10-12 and 18 contained allowable subject matter.

In response to the Office Action of March 27, 1997, Applicant filed a Continuation-in-Part Application under 37 C.F.R. § 1.62 on August 7, 1997, adding certain disclosure to the written description and including a preliminary amendment. Claim 6 was cancelled, and its subject matter incorporated into claim 1, to specify that the control means includes at least one deployable flap means outwardly extensible from the bullet. Furthermore, Applicants distinguished Lawhorn *et al.* as employing fluidic switching to control air flow through exhaust nozzles, in contrast to Applicant's invention which deploys a flap or air foil outwardly from the projectile. Albrektsson, *et al.* was distinguished as disclosing control for spin-stabilized projectiles, in contrast to Applicant's invention that is fired from a smooth-bore gun barrel. Thus, by the amendment of August 7, 1997, Applicant surrendered, at most, *control of an in-flight bullet by a means other than the deployment of flaps outwardly extendible from the projectile.*

On September 24, 1997, the PTO issued an Office Action maintaining the previous rejections of claims 1-5, 7-9, 13-17, and 19.

In response to the Office Action of September 24, 1997, Applicant again amended claim 1 on December 1, 1997, incorporating the subject matter of claim 10, to specify that the bullet is fired from a smooth-bored weapon with no axial spin thereby imparted to it. Claim 10 was cancelled. Similarly, the subject matter of claim 18 – a smooth-bored precision sniper rifle – was added to independent claim 13, and claim 18 was cancelled.

Thus, by the amendment of December 1, 1997, Applicant surrendered, at most, *control of an in-flight bullet fired from a rifled barrel that imparts axial spin to the projectile.*

The PTO issued a Notice of Allowability on January 22, 1998, along with an Examiner's amendment correcting minor textual details. The patent issued as U.S. Patent No. 5,788,178 on August 4, 1998.

This review of the prosecution history reveals that the answers to step two of the *Clement* analysis – what subject matter was surrendered during prosecution – are (1) control of an in-flight bullet by a means other than the deployment of flaps outwardly extendible from the projectile, and (2) control of an in-flight bullet fired from a rifled barrel that imparts axial spin to the projectile.

Although not denominated as such, the third step of the *Clement* analysis is an inspection of the reissue claims, in a search for the surrendered subject matter. "Once we determine that an applicant has surrendered the subject matter of the canceled or amended claim, we then determine whether the surrendered subject matter has crept into the reissue claim. Comparing the reissue claim with the canceled claim is one way to do this." *Clement*, at 1469. The claims added by reissue that remain pending in the reissue application are reproduced below:

30. A method of generating signals on board a pistol or rifle bullet that indicates the general orientation of the bullet relative to a target comprising:

sensing the reflection of light reflected off the target by at least two light detectors carried on the bullet;

each light detector generating an electrical signal that is a function of the intensity of the reflected light sensed by that light detector; and

comparing, on board the bullet, the electrical signals of each light detector and producing an output signal that is a function of the bullet reorientation

required to cause the generated electrical signals to approximate or equal each other.

31. The method of claim 30 wherein at least three separate and distinct electrical signals are generated on board the bullet and wherein each electrical signal is compared with the other two electrical signals to produce a single output signal.

Claims 30 and 31 are directed solely to methods of generating signals on the bullet that are indicative of its orientation relative to a target – claim 30 reciting at least two electrical signals generated by at least two light detectors, and claim 31 reciting at least three such electrical signals. Claims 30 and 31 are drawn to the optical sensing and electrical signal processing means of the bullet. Neither claim 30 nor claim 31 has any relationship at all with the bullet guidance means, or whether the bullet is spin- stabilized or fin-stabilized. Hence, *none of the surrendered subject matter relates to reissue claims 30 or 31.*

32. A pistol or rifle bullet having an onboard system for determining the orientation of the bullet with respect to a target comprising:

at least two light detectors carried on board the bullet for sensing light reflected off the target and each light detector generating an electrical signal that is a function of the intensity of the reflected light sensed; and

an onboard logic circuit for comparing the electrical signals of each light detector and producing an output signal that is a function of the reorientation of the light detectors required to cause the generated electrical signals of the light detectors to approach or equal each other.

Claim 32 is directed to a bullet and its onboard optical detection and electrical signal processing system. Nothing in claim 32 relates in any way to the guidance control means of the bullet – whether achieved via fluidic control of expelled air, deploying extendible flaps, or by any other means. Similarly, nothing in claim 32 relates in any way to whether an axial spin is imparted to the bullet or not. Hence, *none of the surrendered subject matter relates to reissue claim 32.*

Claims 30-32 simply claim the optical detector and electrical signal processors on board a bullet according to the invention of the '178 patent, and methods of generating the signals. The answer to step three of the *Clement* analysis – has surrendered subject matter crept into the reissue claims – is “no.”

Since the patentee is *not* attempting through reissue to “recapture” subject matter that was “surrendered” during prosecution, the recapture rule simply does not apply to this case. “If a reissue claim is broader in a way that does not attempt to reclaim what was surrendered earlier, the recapture rule may not apply.” *Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992, 996 (Fed.Cir. 1993). In stating the same conclusion slightly differently, the Federal Circuit has stated that the recapture rule does not apply where the patentee has made no admission that the claims sought are not patentable, such as, for example, by amendment during prosecution to avoid prior art. “The recapture rule does not apply here, however, because there is no evidence that [patentee’s] amendment of its originally filed claims was in any sense an admission that the scope of that claim was not in fact patentable.” *Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed.Cir. 1984). In illuminating the policy basis of the recapture rule, the Federal Circuit has analogized the rule to the doctrine of prosecution history estoppel. “Indeed, the recapture rule is quite similar to prosecution history estoppel, which prevents the application of the doctrine of equivalents in a manner contrary to the patent’s prosecution history.” *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 1481 (Fed.Cir. 1998).

In the present case, the patentee is not attempting to claim any subject matter that was surrendered in prosecution of the original patent. The patentee thus made no

admission that the subject matter of the reissue claims is not patentable (since the subject matter was not surrendered through amendment during prosecution to avoid prior art).

The patentee is not estopped from claiming the subject matter of the reissue claims, since these claims are not contrary to the patent's prosecution history. In short, under *none* of the several tests and policy concerns articulated by the Federal Circuit do reissue claims 30-32 invoke the recapture rule.

Regarding the Final Office Action of January 17, 2001, the Examiner stated that he had been instructed that, "A claim to a different invention is one which inherently adds new limitations (e.g., different category of invention); however, that does not change the fact that a 'surrendered limitation' cannot be omitted in such a claim." At least as applied to claims 30-32 in the present reissue application, this statement is nonsensical. No "surrendered limitation," *i.e.*, subject matter surrendered during prosecution to avoid prior art, has been "omitted" from claims 30-32. Claims 30-32 are drawn to *different subject matter* than that surrendered – subject matter that is inapposite to the "surrendered limitations," and could not logically ever include the "surrendered limitations." How can a claim improperly omit that which is factually and logically unrelated to it? Patentee submits that whatever policy is implemented through the above stated rule is unsupported in the patent law, and the rule is improperly imposed in this case.

In the Final Office Action, the Examiner reiterated several statements from a prior Office Action. "A broadening aspect is present in the reissue which was not present in the application for patent." As discussed above, Patentee agrees with this assessment. The broadening aspect is the claiming of subject matter disclosed but not claimed in the

original patent application – subject matter that is completely different from anything surrendered during prosecution of the patent.

The Examiner stated, “The record of the application for patent shows that the broadening aspect (in the reissue) relates to subject matter that applicant previously surrendered during the prosecution of the application.” As discussed extensively above, this is erroneous, as a proper *Clement* analysis demonstrates. The broadening aspect of reissue claims 30-32 have absolutely no relation whatsoever with any “subject matter that applicant previously surrendered during the prosecution of the application.”

Applicant/Patentee surrendered, at most, (1) control of an in-flight bullet by a means other than the deployment of flaps outwardly extendible from the projectile, and (2) control of an in-flight bullet fired from a rifled barrel that imparts axial spin to the projectile. Neither of these subjects has any relation to the optical detectors and electrical signal processors, or methods of operating them, that comprise the subject matter of reissue claims 30-32.

The Examiner further stated the requirement, “Each and every point argued by Applicants on the record as defining over the prior art applied in the rejections of record in the patent application as well as the points set forth in the Examiner’s Statement of Reasons for Allowance must be contained in any claims to be issued in this reissue application. That is to say, whatever limitations in the patent application that made the allowed claims allowable over the applied prior art must be present in any claims issuing from this reissue application.” This requirement finds no support in Title 35 of the U.S. Code, in Title 37 of the Code of Federal Regulations, in the MPEP, or in Federal Circuit

decisions. Patentee hereby challenges the above stated requirement as lacking any basis in patent law, and in any event being erroneously imposed in this case.

Conclusion

The recapture rule is simply inapplicable to the present reissue application, and the Board should reverse the Examiner's imposition of the above stated claim requirement, allowing the presently pending reissue claims 30-32 to issue.

Respectfully submitted,

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(9) Appendix

Reissue Claims

30. A method of generating signals on board a pistol or rifle bullet that indicates the general orientation of the bullet relative to a target comprising:

sensing the reflection of light reflected off the target by at least two light detectors carried on the bullet;

each light detector generating an electrical signal that is a function of the intensity of the reflected light sensed by that light detector; and

comparing, on board the bullet, the electrical signals of each light detector and producing an output signal that is a function of the bullet reorientation required to cause the generated electrical signals to approximate or equal each other.

31. The method of claim 30 wherein at least three separate and distinct electrical signals are generated on board the bullet and wherein each electrical signal is compared with the other two electrical signals to produce a single output signal.

32. A pistol or rifle bullet having an onboard system for determining the orientation of the bullet with respect to a target comprising:

at least two light detectors carried on board the bullet for sensing light reflected off the target and each light detector generating an electrical signal that is a function of the intensity of the reflected light sensed; and

an onboard logic circuit for comparing the electrical signals of each light detector and producing an output signal that is a function of the reorientation of the light detectors required to cause the generated electrical signals of the light detectors to approach or equal each other.